ABSTRACT OF THE DISCLOSURE

The preparation of macrocyclic molecules from linear, synthetic thioester precursors is disclosed. An excised thioesterase domain isolated from either a PKS or NRPS multidomain system catalyzes the cyclization reaction. Thioester substrates also are described that are efficiently cyclized by the method of the present invention. Additionally, macrocyclic molecules, including macrolactones and macrolactams, that are prepared by the macrocyclization methods of the invention are described.

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